

REMARKS

Claims 1-34 and 53-63, which were withdrawn from consideration, are now cancelled without prejudice. Applicants reserve the right to file the subject matter of these claims in one or more continuation applications.

Claims 41-43 have been amended to depend from claim 35, instead of claim 1, which was cancelled.

Claims 35-52 remain pending in the application.

Rejection of Claims 35-52 under 35 U.S.C. §103(a)

Reconsideration is respectfully requested of the rejection of claims 35-52 under 35 U.S.C. §103(a) as being unpatentable over WO 99/57222 in view of "Norvez" or "Yang et al." Applicants believe that the Patent Office's reference to "Norvez" refers to S. Norvez, "Liquid Crystalline Triptycene Derivatives," *J. Org. Chem.*, 1993, Vol. 58, No. 9, pages 2414-2418 (Cite No. 4 of the IDS filed October 15, 2001), and "Yang et al" refers to Yang, et al., "Anomalous Crystal Packing of Iptcene Secondary Diamides Leading to Novel Chain and Channel Networks," *Tetrahedron Ltrs.*, 2000, Vol. 41, pages 7911-7915 (Cite No. 5 of the IDS filed April 5, 2002), based on the comments in the Office Action.

Applicants believe that Yang, et al. was not available as a reference as of the priority date of the claims of the instant application, which is August 21, 2000. According to the publisher of the Yang, et al. article (see attached), Yang, et al. was published on October 7, 2000, and was further available on the Intranet on October 13, 2000. Thus, it is believed that Yang, et al. is not available as a reference under 35 U.S.C. §103(a).

With respect to the combination of WO 99/57222 with Norvez, Applicants do not see where in either WO 99/57222 or Norvez is a shape-persistent molecule having at least 20% free volume suggested or disclosed, nor do Applicants see where in either WO 99/57222 or Norvez is a composition comprising a host material within which a shape-persistent molecule self-oriends suggested or disclosed. Although Norvez describes triptycene derivatives having certain liquid crystalline properties, Norvez does not describe a material within which a triptycene derivative can self-orient. Accordingly, to the extent that WO 99/57222 and Norvez could be combined

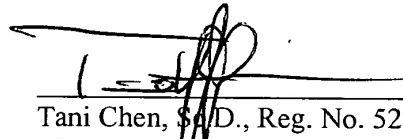
(which Applicants do not concede), it is believed that the combination of WO 99/57222 and Norvez would not result in the invention as claimed in claim 35. Accordingly it is respectfully requested that the rejection of claim 35 be withdrawn. Claims 36-52 depend, either directly or indirectly, on claim 35, and it respectfully requested that the rejection of these claims be withdrawn as well for at least the above-mentioned reasons.

CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,
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Anomalous crystal packing of iptycene secondary diamides leading to novel chain and channel networks

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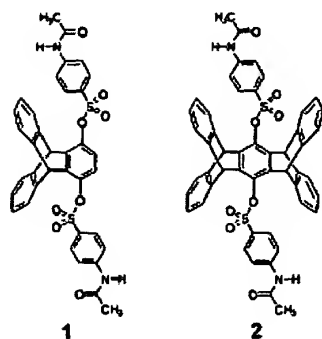
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Abstract

The crystal structures of triptycene and pentiptycene secondary diamides **1** and **2** grown from methanol solutions are reported. In addition, the crystal structure of **1** from a toluene–methanol mixed solution was also determined. The molecular structures of **1** in both crystals are folded, and an anomalous hydrogen-bonding chain motif is generated. On the other hand, the pentiptycene diamide **2** adopts an extended conformation, and the amide groups do not participate in any known amide–amide hydrogen-bonding patterns. Instead, interdigitated molecular stacking results in grid-like channels having a void volume of ca. 25–30% of the crystal. The potential of iptycene-derived building blocks in the design of new organic crystalline materials is thus demonstrated.



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